

Amendments to the Claims:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (previously presented) A memory unit having a storage function, the unit being composed substantially of organic material and comprising:
an electrolyte; and
an organo-resistive material embedded in the electrolyte to form the memory unit, wherein the storage function of the unit results from the organo-resistive material being embedded in the electrolyte.
2. (previously presented) The memory unit as defined in claim 1, further including a conductive material wherein said organo-resistive material is separated from the conductive material by the electrolyte so that the flow of ionic current through the electrolyte due to application of a voltage to the conductive material causes a readable change in at least one of the conductance or color of the organo-resistive material.
3. (previously presented) The memory unit as defined in claim 1 or claim 2 wherein the organo-resistive material is disposed in structured form on a substrate.
4. (previously presented) The memory unit as defined in claim 1, wherein said organo-resistive material is based on conjugated chains.
5. (previously presented) A memory unit as defined in claim 1 wherein the electrolyte is at least one of water-based or solid.
6. (previously presented) A memory unit as defined in claim 1 wherein one of the organo-resistive material or a mixture of said organo-resistive and electrolyte materials comprise a material that is soluble for processing in a solution.

7. (previously presented) A method of making an organo-resistive circuit by ohmically coupling a first circuit to the memory unit as defined in any one of claims 1, 2, 4, 5 or 6; ohmically coupling the first circuit between and to a ground potential and a supply voltage; and ohmically coupling the first circuit to the memory unit.

8. (previously presented) The method as defined in claim 7, wherein the memory unit has a given storage density value, the method further including a step of providing the memory unit in a matrix for providing the memory unit further storage density value higher than the given value.

9. (previously presented) The memory unit as defined in claim 3 wherein said organo-resistive material is based on conjugated chains.

10. (previously presented) The memory unit as defined in claim 3 wherein the electrolyte is at least one of water-based or a solid.

11. (previously presented) The memory unit as defined in claim 4 wherein the electrolyte is at least one of water-based or solid.

12. (previously presented) The memory unit as defined in claim 3 wherein the organo-resistive material or a mixture of said organo and electrolyte materials comprise a material that is soluble for processing in solution.

13. (previously presented) A memory unit as defined in claim 4 wherein the organo resistive material or a mixture of said organo-resistive material and electrolyte materials comprise a material that is soluble for processing in solution.

14. (previously presented) A memory unit as defined in claim 5 wherein the organo-resistive material or a mixture of said organo-resistive material and electrolyte materials comprise a material that is soluble for processing in solution.

15-22 (cancelled)

23. (previously presented) A memory unit having a storage function, the memory unit being composed substantially of organic material and comprising:

an electronic organic component comprising organic material;

an electrolyte;

an organo-resistive material ohmically coupled to the electrolyte to form the memory unit, wherein the storage function of the unit results from the organo-resistive material being coupled to the electrolyte; and

the organo-resistive material coupled to the electrolyte being substantially the same material as the organic material of the electronic component.

24. (previously presented) The memory unit of claim 23 wherein the organo-resistive material is embedded in the electrolyte.

25. (previously presented) A memory unit having a storage function, the unit being composed substantially of organic material and comprising:

an electrolyte;

an organo-resistive material ohmically coupled to the electrolyte to form the memory unit, wherein the storage function of the unit results from the organo-resistive material being coupled to the electrolyte; and

an electrical conductor, said organo-resistive material being separated from the conductor by the electrolyte wherein a voltage applied to the conductor causes a readable change in the color of the organo-resistive material in response to the flow of ionic current through the electrolyte upon said application of the voltage.

26. (previously presented) The memory unit of claim 25 wherein the organo-resistive material is embedded in the electrolyte.

27. (currently amended) A memory unit having a storage function, comprising:

a memory,

the memory having an electrolyte;

an organo-resistive material embedded in the electrolyte;

Application Serial No. 10/541,815
Amendment filed June 16, 2011
Replied to Office Action mailed February 16, 2011

a conductor embedded in the electrolyte,
wherein an electrical potential applied between the organo-resistive ~~organic-resistive~~ material
and the conductor causes the organo-resistive material to conduct or not conduct, and
wherein the storage function of the memory unit results from the organo-resistive material
being embedded in the electrolyte.